NEW STUDENTS’ WELCOME PACK 2016
WELCOME TO THE DEPARTMENT OF MATHEMATICS
AT IMPERIAL COLLEGE LONDON

This Welcome pack is for students starting in October 2016, under the codings of G100, G102, G103, G104, G125, G1F3, G1G3, GG31, G1GH. Students on the Joint Mathematics and Computing programme (JMC) will have different arrangements set up by the Computing department.

We look forward to welcoming you to the Department and hope you have a wonderful time studying with us! Please do not hesitate to contact the relevant person from the contact list given in this document prior to your arrival / any time you are with us with any questions you have.

Information for new students will be updated on the website, please make sure you check regularly for any changes or new information:
www.imperial.ac.uk/natural-sciences/departments/mathematics/study/students/

For College-wide activities, please see events for new students on:
www.imperial.ac.uk/newstudents

Please note that the information in this welcome packet is subject to change—please make sure to check the website as noted above for any new information.
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THINGS TO DO NOW!

REGISTER with the College on e-service
(starting on 5th September 2016)

IF APPLICABLE—please fill out the Health Form on page 17 and return to Mrs Donna Pile-Grant, by 16th September
maths-student-office@imperial.ac.uk
Welcome Letter from Head of Department
Professor Richard Craster

Dear First Year Student,

It is a pleasure formally to welcome you to the Mathematics Department at Imperial College. It is a large step in life going to University and I am pleased that you have chosen to come here: you have done very well to gain entry - it is highly competitive to get a place.

I hope that you continue to excel, to enjoy Mathematics, and that you take advantage of the lectures, facilities and teaching support available. It is important to realise that College is very different from school and it is a transition to a more mature education style which requires considerable commitment from you - it is a challenging course which I hope you will enjoy.

Welcome again!

Best wishes for your first year with us,

Yours sincerely

Professor Richard Craster
Welcome Letter from Departmental Student Representative (Dep Rep), Emma McCracken

Dear Fresher,

Firstly, well done for getting a place here and never forget how impressive it is that you are a Maths student at Imperial! Secondly, welcome! I’m the maths departmental representative this year so I’ll be bobbing about liaising between students and staff on different issues.

You may have lots of questions going through your head like

a) “What is there to do at Imperial?”

b) “What is everyone else like?”

c) “Will I have any time for fun outside Maths?”

I’m starting my third year here so I can have a go at answering these. Making the transition from school to university will be one of the biggest steps in your life so far. For many of you, it will in fact be the biggest one. Embrace the fact that you and your approach to Mathematics, as well as life, will change. This is not all going to happen in your first two weeks here, but gradually, and over time. The Department and the Students’ Union place a lot of emphasis on helping you make this transition, so you will have an amazing time. Now for my answers to the questions above.

a) Imperial has over 300 clubs and societies (!!!), all of which are an extremely good way to meet people outside of your course and your halls. It is highly recommended that you go to at least one! If there’s a society you want to go to but you can’t find someone who also likes it, then just go on your own! You’ll regret the things you don’t do more than the ones you do, and stepping out of your comfort zone is always worth it!

b) We have all been through a competitive process in making it to Imperial, which means we are all very clever. Most of us have been in the top of our respective years, getting near-perfect A-level (or other) grades. So, the person sitting to your left in Clore lecture theatre can say the same, and so can the one sitting to your right. You may quickly feel that a lot of your classmates seem to be smarter than you are, and this is totally natural; on average, you can expect to be average (makes sense, right?). But, this is why it is also exciting – of course you will learn from the lectures and the problems classes, but you will also be able to learn from your peers, so make the most out of getting to know the people around you!

c) YES the course is very tough and you will need to work A LOT harder than you did at school, but it’s the clubs and societies that give you a break from your work and also some renewed motivation. The more you do, the more you gain, and the more fun you have. It’s absolutely possible to balance your work and social life. You will probably struggle with this in first term and in first year, but you will get the hang of it eventually. If you have some spare time over summer to prepare, then have a good read of Martin Liebeck’s book on the recommended reading list, as this will give you very good grounding for when you begin.

In general, I feel like those who truly excel and look back at their Imperial time delightfully and thankfully are those who develop not only their mathematical skills, but also their personalities. University is also about becoming a more mature person and learning for life! So make use of everything on offer. Go to events and parties organised by MathSoc, which is our own departmental society. We also have a “family” system in the department, for which each of you will be allocated “parents” from one of the years above (make sure to sign up for this when the Union sends you information on it!). Your parents’ role is to be a friendly face around campus and to help ease you into university life. Most importantly, get to know as many people in your year as you can, and don’t let language or cultural barriers stand in the way! And don’t forget you’re in London, one of the best cities in the world!

Finally, you should join the “Imperial College Mathematics Freshers 2016” group on Facebook, where you can meet the others in your year (over 200!) and ask questions. Quite a number of higher-year students are also part of this group.

Make the most of the rest of your summer and I look forward to meeting everyone in October. Don’t forget - work hard and play hard!

Your Dep Rep
Emma (emama.mccracken14@imperial.ac.uk)
Welcome Letter from Math Soc President,

Harrison Zhu

Dear Fresher,

What a pleasure to welcome you to Imperial College Mathematics Department. A massive well done to you on achieving all your A*s to get here! My name is Harrison, I'm a second year and I am to be your MathSoc president for this year.

As you may have heard, Imperial College is an unbelievably tough University, academic work will keep you on your tip-toes, but do by all means try and do something outside of academia. I personally found the first term extremely tiresome and difficult, but it helped a lot to actually get out and do something I enjoyed occasionally to divert the pressure. Balancing your social and academic life is crucial, and it's good to talk to other people to arrange your modus vivendi. If you don't quite know where to start, why not come for some fun and find out more about MathSoc.

Imperial College Mathematics Society, in short MathSoc, is a student-run department society. Our aim is to create opportunities for maths students and students from other departments, if they wish to take join maths community, to interact with each other. To do so, we organise many social (guaranteed fun!), academic and social events to help make your freshman year experience worthwhile.

For term 1 we have: RCSU Pub Crawl, Mums and Dads Event, and Mathematics Start of Term Freshers’ Party, all during the first week; followed by Inter-Collegiate Pub Crawl with London Universities, Careers Events, and above all, our prestigious Christmas Dinner. Later on over the year, there will be more events to look out for, but keep an eye for Paintballing Trip, Inter-University Maths Competition, Pi(e)-Day Eating Competition, Bar and Pizza Nights, and make sure you don’t miss these exciting events!

In particular, I strongly encourage you to sign up to the Mums and Dads programme; if you sign up to it, you will be placed in a ‘family’ with 2 seniors and a couple of your first year peers. Being in a family is really good as you can get as much support, from your parents about coping with Imperial life and also share experience with your fellow first years. You will get an email from the Union about this.

Lastly, do join the ‘Imperial College Mathematics Freshers 2016’ group on Facebook; make sure you link your college email account with Facebook and join the ‘big’ Imperial group with 10,000+ people before doing so. There, if you have any questions, you can simply write a post on the wall and we’ll be very happy to answer them. Equally, you can also drop me an email(hbz15@ic.ac.uk).

Whilst we don’t start until October, enjoy the rest of your well-deserved summer break, recharge, and I look forward to meeting you soon!

Your MathSoc Pres,

Harrison Zhu
GENERAL INFORMATION

PRIOR TO STARTING:

REGISTRATION:

Please make sure you officially REGISTER online on the Student e-Service as soon as possible (starting 5th September) as per the instructions College will send you via email. For more information, look on: www.imperial.ac.uk/students/new-students/undergraduates/before-you-arrive/registration/

You will need to complete all of your personal details on www.imperial.ac.uk/studenteservice, including uploading a photo.

Please print your "Registration Confirmation" page and keep it with you just in case you need it later on at the start of year.

International students will need to upload their passport photo page and visa page (if applicable).

The Department also asks you to send in the Medical/Health Form (if applicable) which can be found at the end of this welcome packet, by 16th September.

EMAIL ACCESS and MICROSOFT OFFICE 365:

All communications from the Department will be sent to your College email address. Please be sure that you check this daily. Information on how to access this will be sent to you by the College.

The College uses Microsoft 365 for your emails. Once you have completed Imperial's online registration process, you can use your College credentials to get Microsoft Office 365 software for free.

With Microsoft 365, additional benefits include you being able to install the latest version of Microsoft Word, Excel, PowerPoint, OneNote and much more on up to five compatible, personally-owned PCs and Macs, plus five tablets, including iPad. Read more on: www.imperial.ac.uk/admin-services/ict/training-resources/resources-and-services/microsoft-office-365/

TERM DATES & INDUCTION

The dates of term for the 2016 – 2017 session are:

<table>
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<tr>
<th>Term</th>
<th>Dates</th>
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<tr>
<td>Autumn term (Term 1)</td>
<td>Saturday 1st October — Friday 16th December</td>
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<tr>
<td>Spring term (Term 2)</td>
<td>Saturday 7th January – Friday 24th March</td>
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<tr>
<td>Summer term (Term 3)</td>
<td>Saturday 29th April – Friday 30th June</td>
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Please note that you are required to be in attendance during term time. Where necessary please arrange flights, holiday, work etc. well in advance to ensure that you comply with this College regulation. For more information, please go to the Registry website: www.imperial.ac.uk/admin-services/registry/term-dates/
INDUCTION WEEK:

COLLEGE-WIDE INDUCTION:

Term starts on Saturday 1st October.

For all students living in Halls, you will be able to move in from 9am on Saturday 1st October. Please try to arrive before 4pm as many halls arrange trips from 5pm onwards. Please see the Accommodation website: [www.imperial.ac.uk/accommodation](http://www.imperial.ac.uk/accommodation) or email the office for more information: accommodation@imperial.ac.uk

The weekend of the 1st and 2nd will include a number of College led activities for new students, both for those in halls and those living at home.

Please see all events for all new students on: [www.imperial.ac.uk/newstudents](http://www.imperial.ac.uk/newstudents)

ID CARDS:

If you are living in the Halls, your ID card will be sent there for you. If you are not living in the Halls, you will need to pick it up from the Department’s UG office, Huxley 649, after you start.

MATHEMATICS DEPARTMENT INDUCTION:

The first meeting for all first year maths students will take place on:

Monday, October 3rd at 9:30 in the Clore Lecture Theatre, Huxley Building, 2nd Floor

This is a compulsory year meeting at which you will be given the basic information on the course and your first year. You will also receive your Handbook at this meeting.

The doors will be open from 9am, you are welcome to come early and start meeting some of your classmates!

You will have a full induction day on Monday (until 5pm), followed by a number of other activities throughout the week.

The full schedule of events will be posted online in September: [www.imperial.ac.uk/natural-sciences/departments/mathematics/study/students/](http://www.imperial.ac.uk/natural-sciences/departments/mathematics/study/students/)

If for any reason you are unable to attend please contact maths-student-office@imperial.ac.uk
1st YEAR PROGRAMME

1st YEAR MODULES

After Induction Week (introductory lectures and compulsory meetings), normal lectures start in Week 2 and run through to the last day of term, December 16th. Tests and Problems Classes start in Week 3.

An example of a possible 1st year mathematics student’s Autumn Term timetable is shown on the next page. Please note that this is only an example to show the breakdown of lectures, etc.; the 2016 timetable has not yet been finalised—you will get this on the first day of Term. Timetable updates will be found on the College VLE, Blackboard, under Maths Central, once they are finalised. The Maths Central pages on Blackboard will include important documents and information for your study here, please check this regularly. Year updates will also be posted there.

The teaching day for UGs runs weekdays from 9 to 6 (Except Wednesdays where no teaching is scheduled for after 1). You could have classes or meetings scheduled at any time between these times. Although lectures and problems classes for Year 1 Maths students are all common, you will have individual times for tutorials/meetings, so you will need to make a note of these for yourself so as not to miss them. Time management is a key skill to learn ASAP!

Lectures and classes in the Department of Mathematics start at the designated time (on the hour) and generally end 10 minutes to the hour to enable time for breaks/movement from one room to another.

One thing you will quickly notice once you start at College is how different learning at university is to school.

In your lectures you will need to be taking good notes so that you can review these later, and although there are usually opportunities at the end to ask questions, most of your “work” and asking of questions will need to be done outside of lectures in your own time.

Many of your lecturers will use a Blackboard page to display module information (eg. notes, problem sheets, recommended reading), but some will use separate websites. Information will be given at the start of year lectures.

In the Autumn Term all first year mathematics students (regardless of your coding) take four lecture modules (3 lectures + 1 problems class per module per week) and one Computing module (1 lecture + 1 tutorial per week). These modules are:

- M1F Foundations of Analysis
- M1GLA Geometry and Linear Algebra
- M1S Probability and Statistics 1
- M1M1 Mathematical Methods 1
- M1C Computational Techniques

In Computational Techniques you will learn to use the mathematical computer packages Matlab and (in the Spring term) Python. No previous computing experience is necessary. You are advised NOT to buy either Matlab or Python beforehand.

In addition, you will also have the following that will be individually scheduled:
- 1 meeting per week with your Personal Tutor (small group)
- 1 weekly small group tutorial problem solving session with a 4th year student (starting in week 3)

And for some students:
- Language classes (for those students on the Year in Europe programme only)
- English language classes (only for those students who are required to participate based on English language level and test)
- Imperial Horizons (see more information later on)
PROBLEMS CLASSES & PROBLEMS SHEETS:

The main purpose of the weekly problems classes is to discuss the lecture material and to sort out any difficulties arising from problems sheets set by the lecturers.

Each week you will be given sheets of problems to tackle. It is very important to spend adequate time on these. You will probably have found Mathematics relatively easy at school or college. Don’t be surprised if you find that you need to work much harder at Mathematics at university, where the subject is more about problem solving and rigorous proof than about tackling routine exercises and calculations. Most students should expect to struggle with at least some of the problem sheets we will give you. You will also find that you will need to work hard throughout the year and that last minute revision before the examinations will not be a recipe for success even if this was your strategy at school. We find that students who ignore this advice are usually the ones who fail their exams here!

To help you with the transition from school to university level Mathematics, we try to give you as much support as possible in the first year. In addition to the problems classes, lecturers have office hours and you will have two small tutorials—one with our Personal Tutor, an academic, and one with a fourth year peer tutor, in which to go over problems in more depth. The best way to get the most out of your time here is to make sure you have done a lot of independent work before coming to these tutorials so that you can get the help you need, and know what questions to ask.

Typically, you will need to spend 40 hours per week on Mathematics (including lectures and tutorials). You will find, however, that solving problems and understanding concepts is more satisfying and productive without time constraints. We expect you to spend as much time as necessary to understand Mathematics. Remember that everyone on your course will have done well at Mathematics at school! As a previous student has said—first year is all about learning how to “struggle” with a problem, to really understand how to break it down and solve it.

SAMPLE TIMETABLE:

The following is a SAMPLE timetable for a First Year Student for the Autumn Term (Term 1) (this is NOT this year’s timetable!) In yellow are the courses all students take. In orange are extra sessions that will be scheduled for every student, however, the times and places for these will change per student, below is just a sample. In green is the optional Imperial Horizons course. In addition, if taking a language as a G104 student, you will have language classes to add into your schedule. Similarly, for students taking the English language class, you will have a two-hour class scheduled during the week.

Free time is set for independent work on your studies and time to meet with other students for study groups. In addition, numerous activities/specialty lectures/careers events are scheduled throughout the year and you are encouraged to take full advantage of everything Imperial has to offer. One thing you will quickly learn is that time management is the key to everything—so start your work early, keep on top of your lectures and ask for help when needed!

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<th>Friday</th>
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<tr>
<td>9-10</td>
<td>M1M1 Lecture</td>
<td>M1S Lecture</td>
<td>M1F Lecture</td>
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<td>Huxley 213</td>
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<tr>
<td>10-11</td>
<td>M1M1 Problem</td>
<td>M1S Problem</td>
<td>M1F Problem</td>
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<td></td>
<td>Solving Class</td>
<td>Solving Class</td>
<td>Solving Class</td>
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<tr>
<td>11-12</td>
<td>M1S Lecture</td>
<td>Mathematical</td>
<td>M1S Lecture</td>
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<td>Huxley 213</td>
<td>Computation</td>
<td>Huxley 213</td>
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<td>(Clore LT)</td>
<td>M1C Lecture</td>
<td>(Clore LT)</td>
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<td>Huxley 213</td>
<td>(Clore LT)</td>
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<tr>
<td>12-13</td>
<td>Weekly Test</td>
<td>M1GLA Lecture</td>
<td>M1GLA Lecture</td>
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<td>Huxley 340/341/342</td>
<td>Huxley 213</td>
<td>Huxley 213</td>
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<td>13-14</td>
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<td>Meet with Personal Tutor</td>
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<td>14-15</td>
<td>M1F Lecture</td>
<td>M1GLA Lecture</td>
<td>M1M1 Lecture</td>
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<td>Huxley 213</td>
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<tr>
<td>15-16</td>
<td>M1GLA Lecture</td>
<td>M1GLA Problem</td>
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<td>Huxley 213</td>
<td>Solving Class</td>
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<td>Huxley 340/341/342</td>
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<tr>
<td>16-17</td>
<td>M1GLA Lecture</td>
<td>Small Group</td>
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<td>Huxley 213</td>
<td>Tutorial</td>
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<td>17-18</td>
<td>Imperial</td>
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<td>M1F Lecture</td>
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<td>Horizons</td>
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IMPERIAL HORIZONS:

The Imperial Horizons programme allows you to take a non-maths module from over 80 different options, including modules such as: Introduction to Management, Sound Technology or Korean. The programme has been designed to broaden students’ education and enhance their career prospects. It is a great opportunity to expand your knowledge (and CV!) and to meet new people. The modules run on Tuesdays from 4-6 PM and do not interfere with your maths lectures. In the Mathematics Department Horizons modules are not for credit in Years 1 and 2. Please read more about the programme on: www.imperial.ac.uk/horizons. You need to apply to the programme separately by the deadline given (the deadline will be soon after the start of term).

YEAR IN EUROPE STUDENTS (G104 coding):

Students taking the Year in Europe course G104 need to have at least a GSCE (or equivalent) in their chosen language and they MUST register for classes in their chosen language as soon as possible after registration opens on 5th September. More information can be found on: www.imperial.ac.uk/languages/year-in-europe. The enrolment form is through the Horizons page, on www.imperial.ac.uk/horizons/enrolment. You will need your CID number which is on the email you receive from College once you have accepted your offer of admission. Make sure you indicate that you are a Year in Europe Student on enrolment form!

Note that while in general you have to pass the language examinations at the end of Years 1 and 2 in order to stay on G104, your language examination results are not counted towards the Honours Marks of your Mathematics degree.

CONTACTS IN THE DEPARTMENT

Director of Undergraduate Studies—Professor David Evans
Professor Evans oversees the academic side of the undergraduate experience. He can be emailed at david.evans@imperial.ac.uk

Senior Tutor—Dr Chris Ford
The Senior Tutor oversees student welfare and student progression including interruptions of study. He is also the Disabilities Officer in the Department. Dr Ford can be emailed at: ma.st@imperial.ac.uk

Student Liaison Officers —
Mrs Anne-Marie Hilder & Mrs Inkeri Hibbins (L to R)
The Student Liaison Officers help with student support services in the Department. Students can see either Anne-Marie or Inkeri at any point for either welfare or academic issues. Anne-Marie will be the point person for 1st year students. You can find them in the Huxley Building in room 632, or they can be emailed at: a.hilder@imperial.ac.uk (Anne-Marie) and i.hibbins@imperial.ac.uk (Inkeri). Both Anne-Marie and Inkeri will also have times when they will be available in the Maths Learning Centre (MLC), the main computing room for undergraduate maths students.

UG Maths Student Office—Mrs Donna Pile-Grant and Mrs Agnieszka (Aga) Damasiewicz
The UG Maths Student Office is the hub for all important paperwork. This is where you will hand in your coursework throughout the term and also hand in (and pick up) important forms/letters such as reference requests, illness forms and degree code change applications. The Office is in the Huxley Building, room 649. You can email the office at maths-student-office@imperial.ac.uk. Aga will be mainly in charge of Year 1 information, so with any questions, please go see her.

Year 1 Tutor—Dr Ed Segal
The Year 1 Tutor works with the Senior Tutor to oversee their year. You should contact the Year Tutor with any concerns about absences, missing tests/courseworks due to illness, and personal academic progression.

www.imperial.ac.uk/mathematics/students/undergraduate
MATHS MUMS AND DADS — IMPERIAL COLLEGE UNION

The Union’s Maths Mums and Dads scheme is one where new first year students are placed into a “maths family” with older students acting as the “parents” - a great way to get the “insider” information on the course and College! The Union will send out more information about this and how to join. A number of activities will be arranged for families to take part in every year.

ACTIVITIES IN THE DEPARTMENT

The Department has a Mathematics Society, MathSoc, run by undergraduates, which organises social events and talks by visiting speakers. In addition there is an informal club called PLUS! which meets several times a term to chat about interesting and unusual mathematical problems. If you took part in the Mathematics Olympiads in the past, you may be interested in joining Plus!

The UG Colloquium is a weekly lecture series run by undergraduates for undergraduates. Come and listen to talks about independent research your fellow students are undertaking (or just an interesting problem they have come across and looked into), or present a talk of your own!

GETTING AROUND THE CAMPUS

All maths lectures and classes primarily take place in the Huxley Building. The main lecture theatre for 1st year lectures is The Clore Lecture Theatre, on level 2. This is on the right hand side on the same level you enter the building from on Queen’s Gate.

Problems Classes take place on the 3rd Floor of the Huxley Building, in Rooms 340, 341 and 342.

The two main Departmental rooms Undergraduates can use for working and relaxation are the Maths Common Room (sofas, board games, computers, tables, whiteboards for working on) on the 2nd floor next to the Clore and the Maths Learning Centre (MLC) on level 4 (main computer room with additional tables for individual work, small side rooms for tutorials and a small soft seated area). There are also two other smaller computer rooms, 408 and 410 that students can use. 408 is designated as a silent work area.

Please look on: https://workspace.imperial.ac.uk/campusinfo/public/sthkencampus.pdf for the South Kensington Campus Map. The Huxley Building is point number 13.

WHO DO I GO TO HELP WITH…?

In addition to the support services in the Department, the College has a number of places students can get help. You can read about the support services on: www.imperial.ac.uk/student-space/

With so many places to get support, it can be difficult to identify who best to ask, and thus on the next two pages are some of the most frequently asked questions. In most cases, your Personal Tutor can help you identify support, but in other cases it is possible to find support directly yourself. Of course, although your Personal Tutor is listed as the first person to discuss things with, you are of course free to discuss your needs with any staff member you feel most happy to do so.

The Student Liaison Officers are not listed as separate people to contact on the next two pages, but they are always available to help point you in the right direction on any question you may have. Please stop by to see Anne-Marie or Inkeri in Huxley 632 at any point with any query big or small—as long as the door is open, you are welcome to walk in—or alternatively email to make an appointment: a.hilder@imperial.ac.uk or i.hibbins@imperial.ac.uk. Anne-Marie and Inkeri will also spend time in the MLC and you are welcome to stop by to see them there.
WHO DO I GO TO HELP WITH…?

Problem: Trouble settling in/adjusting to life at University

Your Personal Tutor is your point person on most issues, especially settling in at University. If you have any concerns/feeling low/homesick, not settling in/meeting people, make sure to speak with your Personal Tutor or either of the Undergraduate Liaison Officers, Anne-Marie or Inkeri. If you are living in the Halls, you should also speak with your Hall Senior or Warden. Just make sure you talk to someone! Also, if you notice any of your friends feeling low, encourage them to speak to someone.

Problem: Computer / IT issue (related to campus systems or software)

The ICT Helpdesk on Level 4 Sherfield can help with most issues. Their website is www.imperial.ac.uk/admin-services/ict/- you should log your support query via the website form to ensure the right person responds.

Problem: Language Support

Your Personal Tutor can help you identify any concerns with your language skills, and may refer you to the Centre for Academic English. The Centre for Academic English offers short intensive evening classes—please take a look on: www.imperial.ac.uk/academic-english/undergraduate-and-exchange-students/. For international First Year students, an English support module runs throughout the year. If you have not been asked to attend the module based on your English test results, but would like to do so, please contact either of the Undergraduate Liaison Officers.

Problem: Disability Support

The Senior Tutor, Dr Ford, is the Department Disability Officer and can help you to identify your support needs. You will be asked to meet with the College Disability Advice service and depending on your needs support options will be reviewed. You can also speak with either Undergraduate Liaison Officer.

If you have a registered disability/a long term health issue or if you had special arrangements during school exams, please do let us know as soon as possible (please fill out and return the form on the last page). It is important that the College has all of the paperwork in place in order to support you in the most appropriate manner. Specific advice is available on the Disability Advisory Service Website: www.imperial.ac.uk/disabilityadvisoryservice, or by email disabilities@imperial.ac.uk.

Problem: Learning Difficulties

Your Personal Tutor or the Undergraduate Liaison Officer may identify any issues you may have, but this will be referred to the Senior Tutor. We will then work with the College Disability Advice service to identify your needs and provide support where available.

Problem: Health issues interfering with studies (body or mind)

You should alert your Personal Tutor or one of the Undergraduate Liaison Officers as soon as you can; this will be discussed with the Senior Tutor to help assess the likely impact on your studies. All students should make sure that they are registered with a Doctor either at the Campus Health Centre (if living in campus accommodation/in the catchment area) or near their home. Contact the Health Centre via: www.imperialcollegehealthcentre.co.uk/ and phone: 020 7584 6301. The Health Centre has triage clinics for urgent issues every weekday morning from 8:30 to 10. The College has a Counselling service that is free for students to use: www.imperial.ac.uk/counselling/ contact them via email for appointments: counselling@imperial.ac.uk. There is also a Dental Clinic on campus—call 020 7589 6623 for information.

Problem: Stress

Your Personal Tutor can discuss your concerns, as well as the Undergraduate Liaison Officers or the Senior Tutor, and we can help you to find possible solutions. The College runs a number of stress management workshops—information will be sent on email. The Health Centre has helpful information on their website: www.imperialcollegehealthcentre.co.uk/exams-and-stress/. You may also contact the Student Counselling Service for support, www.imperial.ac.uk/counselling/
WHO DO I GO TO HELP WITH…?

Problem: Absence from college
If you are absent for one or two days, you can self-certify your absence. For three or more days you must inform your Personal Tutor, and for more than a week you must request permission from the Year Tutor. Where this interferes with assessment you must complete the appropriate Illness/Personal Issue Form and/or the Mitigating Circumstances form (more information on forms will be given at start of year).

Problem: International Student Concerns
Extensive advice is available for international students on the International Office Website: www.imperial.ac.uk/study/international-students/, and students are encouraged to see the staff in the office for any questions regarding their visa or their stay in the UK.

Problem: Accommodation troubles
If living in the Halls, speak with the Warden/Sub-Warden/Hall Seniors with any concerns. Your Personal Tutor or the Undergraduate Liaison Officers can discuss issues with you to help you find avenues of support and refer you to the Accommodation Office. The Senior Tutor can also help identify the likely affect on your work. If living off campus and having issues around housing rights/your landlord, you can also seek support from the Union Advice Centre at advice@imperial.ac.uk

Problem: Social troubles
Your Personal Tutor or the Undergraduate Liaison Officers can discuss your concerns, as well as the Senior Tutor, and we can help you to find possible solutions.

Problem: Family troubles
Your Personal Tutor or the Undergraduate Liaison Officers can discuss your concerns with you, as well as the Senior Tutor. If the issues are likely to interfere with your work, the Senior Tutor can help to identify possible routes of support.

Problem: Study skills (Exams, Lectures, writing reports)
Your Personal Tutor or the Undergraduate Liaison Officers can help you identify your needs and can work with you to improve your study skills. They will make use of the Imperial Success Guide to help you identify how best to improve your study skills (www.imperial.ac.uk/students/success-guide/).

Problem: Course concerns
If there are any potential concerns with your course of study, be it content, difficulty or structure of deadlines and/or workload, the Director of Undergraduate Studies, Professor David Evans, is happy to discuss the concerns with you. Your Student Year Reps and Departmental Representative, Emma McCracken and the Undergraduate Liaison Officers are also here to help liaise between the students and the staff, so you can always approach them with concerns over the academic programme.

Problem: Financial troubles
Your Personal Tutor can help you identify sources of funding and can direct you to Student Financial Support office, www.imperial.ac.uk/fees-and-funding for assistance. There may be hardship funds available depending on your circumstances. The Union Advice Centre can help with financial concerns as well, including debt advice: advice@imperial.ac.uk. You should discuss the situation with the Senior Tutor or the Undergraduate Liaison Officers if the situation is severe and is affecting your studies.

Although hopefully you are able to concentrate mainly on your studies while at Imperial, we understand that some students have to take on paid work to support themselves. If so, please check the guidelines on work during term time on: https://workspace.imperial.ac.uk/registry/Public/Procedures%20and%20Regulations/Policies%20and%20Procedures/Student%20Employment%20During%20Studies.pdf. Please be careful with your time and ask for help if you are finding that work is interfering with your studies. Your primary objective while at Imperial should be your academics!

Problem: I need a reference…
Your Personal Tutor is your primary referee, so you should make sure that they know you well enough to write a reference for you. Other good people to ask for references are: Project Supervisors (especially Year 2, 3 and 4 project supervisors) and the Year Tutor. The Senior Tutor may provide a reference if you are unable to gain a reference from any of the above. You should always make sure you ask people who know you well and thus can write a good reference for you.
**HOW TO PREPARE**

For most people the pace of work at university is much faster than they are used to at school so it is very important that you consolidate your A-level knowledge of Mathematics before you arrive. This is particularly important if you have had a gap year.

**WHAT TO READ/REVIEW**

You should refer to our list of basic mathematical techniques (page 16) with which we would like you to be familiar before the start of term. Items in section A should already be at your fingertips, but you may not yet have met all of the topics in section B. Students come to Imperial from a number of educational backgrounds—we know that certain topics are not covered by everybody at school. To make the start of your course a lot easier, you are urged to study anything unfamiliar on the list (both sections A and B), from an appropriate A-level Mathematics or Further Mathematics textbook such as:

- Introducing Pure Mathematics by Robert Smedley & Gary Wiseman (ISBN 0 19 914 803 1)
- Further Pure Mathematics by Brian Mark Gaulter (ISBN 0 19 914 735 3)

You could perhaps contact your old school or public library who may be able to lend you a suitable text. A few excellent books, which will help you to prepare for the different style of mathematics that you will study here, are:

- How to Study for a Mathematics Degree by Lara Alcock, published by Oxford University Press.

You will take a Diagnostic Test during the Induction Week. The material is based around A-level material, and may be based on topics we ask you to review through METRIC (see below), but will test more problem solving ability than specific knowledge. The diagnostic tests will be reviewed in small tutorials.

You will also find it useful (and entertaining) to read some recreational Mathematics books, which should be available either from your local library or in paperback versions from a good bookshop. Suggestions include “Alice in Numberland” by J Baylis and R Haggerty, Macmillan Education 1988, “What is Mathematics?” An Elementary Approach to Ideas and Methods by R Courant, H Robbins and I Stewart, Oxford paperbacks 1996, or anything by Martin Gardner or Ian Stewart. The New Scientist and Scientific American also have interesting mathematical articles.

There is no need to buy any undergraduate textbooks at this stage. They are sometimes expensive and it is best to wait until you have a better idea about what you will need. You will find that the main College Library is well stocked with appropriate books including e-versions.

Some of you may be thinking about buying a new calculator or computer. Although a simple calculator can be useful for some coursework and project work, any complex calculations are better done using a computer package. By the way, we do not normally allow the use of calculators (or formula sheets) of any kind in Mathematics examinations! For information about computing facilities in the College and the purchase of machines and/or software go to [www.imperial.ac.uk/ict](http://www.imperial.ac.uk/ict).

College will send you details of how to activate your College Computer Account before you arrive.

**MATHEMATICS EDUCATION TECHNOLOGY (METRIC)**

To help prepare for the first year, all First Year Mathematics Undergraduates are asked to log on to METRIC over the summer. Imperial’s METRIC online tool includes learning modules consisting of self-test exercises, interactive explorations of concepts and mathematical tools.

You do not need to review all sections in the programme, but we will ask you to complete select sections prior to arrival at the College. The required sections and log in details will be sent to your College email address in mid-September, please keep a look out for these. Prior to this, please make sure that you have registered with the College and have your network/email log in details.

In the mean time, please feel free to log on to METRIC’s public site at: [wwwf.imperial.ac.uk/metric/metric_public/](http://wwwf.imperial.ac.uk/metric/metric_public/) to try out some of the sections open to the public (please note that the glossary may not work as well on Internet Explorer as other browsers).
BASIC TECHNIQUES

SECTION A:
1) Sum of series: arithmetic and geometric progressions summed to \( n \) terms; sum of geometric series; exponential series
2) Binomial theorem for positive integer exponents
3) Derivatives of:
   \[ f(x)g(x), \quad f(x)/g(x), \quad f(g(x)), \quad \sin x, \quad \cos x, \]
   \[ \tan x, \quad e^x, \quad \ln x. \]
4) Trigonometric identities: expressions for
   \[ \sin(A \pm B), \quad \cos(A \pm B), \quad \sin 2\theta, \quad \cos 2\theta. \]
5) Solutions of linear and quadratic equations and inequalities
6) Integration of: \( x^n, \quad e^x, \quad 1/x, \quad \sin x, \quad \cos x. \)
7) Differential equations: solution of \( \frac{dy}{dx} + \alpha y = 0 \), where \( \alpha \) is a constant.
8) Simple curve sketching.

SECTION B
9) Binomial theorem for all exponents.
10) Partial fractions.
11) Derivatives of:
    \[ \sin^{-1} x, \quad \cos^{-1} x, \quad \tan^{-1} x, \quad a^x, \quad (where \ a \ is \ a \ constant). \]
12) Trigonometric identities: expressions for \( \sin A \pm \sin B \), etc.;
    \( a \cos \theta + b \sin \theta \) in the form \( r \cos(\theta + \alpha) \).
13) Integration of: \( \frac{1}{1+x^2}, \quad \frac{1}{\sqrt{1-x^2}} \); integration by parts.
14) Sum and product of the roots of a quadratic equation.
15) Differential equations: solution of \( \frac{d^2y}{dx^2} \pm \omega^2 y = 0 \) by the substitution \( y = Ae^{mx} \), or otherwise
    (where \( \omega, A \) and \( m \) are constants).
16) Elementary knowledge of vectors: addition, subtraction, scalar product.
17) Sums, products and determinants of \( 2 \times 2 \) and \( 3 \times 3 \) matrices.
18) Basic properties of complex numbers, including their geometrical representation. Sums and products of complex numbers.
19) Coordinate geometry of conic sections:
    \[ \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1, \quad xy = c, \quad y^2 = 4ax \]
If you have any special needs because of a disability or health problem, please let us know, so that necessary arrangements can be made; including any needs you have relating to access to buildings or equipment, or to teaching material.

Please describe any special arrangements which have been made in the past for your examinations.

Should you need extra time for tests/examinations, you will need to provide documentation to the effect. The Senior Tutor (who is also the Disabilities Advisor in the Department) will contact you for this based on the information you provide us below. You will also be asked to see the Disabilities Advisory Service.

| FIRST NAME (CAPITALS) |   |
| FAMILY NAME (CAPITALS) |   |
| HEALTH/DISABILITY & SPECIAL ARRANGEMENTS |   |

Signed: .................................................. Date: ..................................................

PLEASE RETURN THIS COMPLETED FORM TO Mrs Donna Pile-Grant, DEPT OF MATHEMATICS, IMPERIAL COLLEGE LONDON, LONDON SW7 2AZ, maths-student-office@imperial.ac.uk, by 16th September 2016.

The Senior Tutor may contact you if discussion is necessary before you arrive for the start of term. He may also be contacted:

Dr Chris Ford
Senior Tutor, Department of Mathematics
Telephone: +44 (0) 207 594 9165
Email: ma.st@imperial.ac.uk